



Substitute for form 1449A/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/826,153
		Filing Date	April 16, 2004
		First Named Inventor	Scher 1631
		Art Unit	
		Examiner Name	R. Negin
Sheet	of	Attorney Docket Number	01-002001

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document No.	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number - Kind Code (if known)			
RSN	AA	US-3,996,345	12-07-1976	Ullman et al.	
	AB	US-4,637,988	01-20-1987	Hinshaw et al.	
	AC	US-4,777,128	10-11-1988	Lippa	
	AD	US-5,262,357	11-16-1993	Alivisatos et al.	
	AE	US-5,293,050	03-08-1994	Chapple-Sokol et al.	
	AF	US-5,304,786	04-19-1994	Pavlidis et al.	
	AG	US-5,308,804	05-03-1994	Lee	
	AH	US-5,354,707	10-11-1994	Chapple-Sokol et al.	
	AI	US-5,395,791	03-07-1995	Cheng et al.	
	AJ	US-5,422,489	06-06-1995	Bhargava	
	AK	US-5,492,080	02-20-1996	Ohkawa et al.	
	AL	US-5,499,260	03-12-1996	Takahashi et al.	
	AM	US-5,505,928	04-09-1996	Alivisatos et al.	
	AN	US-5,515,393	05-07-1996	Okuyama et al.	
	AO	US-5,525,377	06-11-1996	Gallagher et al.	
	AP	US-5,537,000	07-16-1996	Alivisatos et al.	
	AQ	US-5,541,948	07-30-1996	Krupke et al.	
	AR	US-5,565,324	10-15-1996	Still et al.	
	AS	US-5,585,640	12-17-1996	Huston et al.	
	AT	US-5,625,456	04-29-1997	Lawandy	
	AU	US-5,674,698	10-07-1997	Zarling et al.	
	AV	US-5,721,099	02-24-1998	Still et al.	
	AW	US-5,736,330	04-07-1998	Fulton	
	AX	US-5,747,180	05-05-1998	Miller et al.	
	AY	US-5,751,018	05-12-1998	Alivisatos et al.	
	AZ	US-5,770,299	06-23-1998	Dannenhauer et al.	
	BA	US-5,789,162	08-04-1998	Dower et al.	
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RSN	BB	US-5,985,353	11-16-1999	Lawton et al.	
	BC	US-5,990,479	11-23-1999	Weiss et al.	
	BD	US-6,114,038	09-05-2000	Castro et al.	
	BE	US-6,274,323	08-14-2001	Bruchez et al.	
	BF	US-6,309,701	10-30-2001	Barbera-Guillem	
	BG	US-6,355,432	03-12-2002	Fodor et al.	08-12-2003
	BH	US-6,602,671	08-05-2003	Bawendi et al.	McNamer et al
↓	BI	US-20040178338	09-16-2004	Empedocles et al.	

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Examiner Initials	Cite No.	Foreign Patent Document Country Code - Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
RSN	BJ	WO-9529473	11-02-1995	Univ. Hertfordshire		
	BK	WO-9804740	02-05-1998	Univ. Northwestern		
	BL	WO-9819963	05-14-1998	Spectra		
	BM	WO-9833070	07-30-1998	Krauledat		
	BN	WO-9836376	08-20-1998	Spectra		
	BO	WO-9846372	10-22-1998	Brown Univ.		
	BP	WO-9919515	04-22-1999	Luminex		
	BQ	WO-0027365	05-18-2000	Biocrystal		
	BR	WO-0027436	05-18-2000	Biocrystal		
↓	BS	WO-0028088	05-18-2000	Biocrystal		
	BT	WO-0028089	05-18-2000	Biocrystal		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T
RSN	BU	Alivisatos, A.P. "Perspectives on the Physical Chemistry of Semiconductor Nanocrystals" J. Phys. Chem. (1996) 100:13226-132396			
RSN	BV	Alivisatos, A.P. "Semiconductor Clusters, Nanocrystals, and Quantum Dots," Science, 271:933-937			

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RSN	BW	Alivisatos, A.P. et al., "Organization of `nanocrystal molecules` using DNA," Nature (1996) 382:609-611	
	BX	Baldwin, J.J. et al., "Synthesis of a Small Molecule Combinatorial Library Encoded with molecular Tags" J. Am. Chem. Soc. (1995) 117:5588-5589	
	BY	Bawendi, M.G. et al., "Luminescence properties of CdSe quantum crystallites: resonance between interior and surface localized states," J. Chem. Phys. (1992) 96(2):946-954	
	BZ	Beverloo, H.B. et al., "Preparation and Microscopic Visualization of Multicolor Luminescent Immunophosphors," Cytometry (1992) 13:561-570	
	CA	Bruchez, M. et al., "Semiconductor Nanocrystals as Fluorescent Biological Labels" Science (1998) 281:2013-2016	
	CB	Bruchez, M. et al., "Semiconductor nanocrystals as fluorescent probes for biology," Cytometry, Supplement 9, p. 26, Mar., 1998	
	CC	Chan, W.C.W. et al., "Quantum Dot Bioconjugates for Ultrasensitive Nonisotopic Detection" Science (1998) 281:2016-2018	
	CD	Chee, M. et al., "Accessing Genetic Information with High-Density DNA Arrays" Science (1996) 274(5287):610-614	
	CE	Coffer, J.L. et al., "Characterization of quantum-confined CdS Nanocrystallites stabilized by deoxyribonucleic acid (DNA)" Nanotechnology (1992) 3:69-76	
	CF	Colvin, V.L. et al., "Light-emitting diodes made from cadmium selenide nanocrystals and a semiconducting polymer" Nature (1994) 370(6488):354-357	
	CG	Cook, "Scintillation proximity assay: a versatile high-throughput screening technology," Drug Discovery Today (1996) 1:287-294	
	CH	Correa-Duarte, M.A. et al., "Stabilization of CdS semiconductor nanoparticles photodegradation by silica coating procedure," Chem. Phys. Lett. (1998) 286:497-501	
	CI	Czarnik, A.W., "Encoding methods for combinatorial chemistry" Curr Opin Chem Biol. (1997) 1(1):60-6	
	CJ	Dabbousi, B.O. et al., "Electroluminescence from CdSe quantum-dot/polymer composites" Appl. Phys. Lett. (1995) 66(11):1316-1318	
	CK	Dabbousi, B.O. et al., "(CdSe)ZnS core-shell quantum dots: synthesis and characterization of a size series of highly luminescent nanocrystallites" J. of Phys. Chem. B (1997) 101(46):9463-9475	
↓	CL	Danek, M. et al., "Synthesis of Luminescent Thin-Film CdSe/ZnSe Quantum Dot Composites Using CdSe Quantum Dots Passivated with an Overlayer of ZnSe" Chem. Mater. (1996) 8(1):173-180	

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RSN	CM	Egner, B.J. et al., "Tagging in combinatorial chemistry: the use of coloured and fluorescent bads" Chem. Commun. (1997) 735-736	
	CN	Empedocles, S.A. et al., "Photoluminescence Spectroscopy of Single CdSe Nanocrystallite Quantum Dots" Phys. Res. Lett. (1996) 77(18):3873-3876	
	CO	Empedocles et al., "Quantum-Confined Stark Effect in Single CdSe Nanocrystallite Quantum Dots" Science 278:2114-2117, Dec. 1997	
	CP	Fodor, S.P.A., "DNA Sequencing: Massivley Parallel Genomics" Science (1997) 277(5324):393-395	
	CQ	Fox, M.A. et al., "Fluorescence and Redox Activity of Probes Anchored through an Aminotrithiol to Polycrystalline Gold" Langmuir (1998) 14:816-820	
	CR	Gan, L.M. et al., "Enhanced Photoluminescence and Characterization of Mn-Doped ZnS Nanocrystallites Synthesized in Microemulsion" Langmuir (1997) 13:6427-6431	
	CS	Gao, M. et al., "Strongly Photoluminescent CdTe Nanocrystals by Proper Surface Modification," J. Phys. Chem. (1998) 102:8360-8363	
	CT	Guha, S. et al., "Hybrid organic-inorganic semiconductor-based light-emitting diodes" J. Appl. Phys. (1997) 82(8):4126-4128	
	CU	Hines, M.A. et al., "Synthesis and Characterization of Strongly Luminescing ZnS-Capped CdSe Nanocrystals" J. Phys. Chem. (1996) 100:468-471	
	CV	Jacoby, M. "Quantum dots meet biomolecules" C&E News :8, Sep. 28, 1998	
	CW	Jarvis, R.F. et al., "Solution Synthesis and Photoluminescence Studies of Small Crystallites of Cadmium Telluride," Mat. Res. Soc. Symp. Proc. (1992) 272:229-234	
	CX	Kagan, C.R. et al., "Electronic Energy Transfer in CdSe Quantum Dot Solids," Physical Review Letters (1996) 76(9):1517-1520	
	CY	Kagan, C.R. et al., "Long-range resonance transfer of electronic excitations in close-packed CdSe quantum-dot solids," Physical Review B, 54(12):8633-8643, Sep. 15, 1996-II	
	CZ	Kortan, A.R. et al., "Nucleation and Growth of CdSe on ZnS Quantum Crystallite Seeds, and Vice Versa, In Inverse Micelle Media" J. Am Chem. Soc. (1990) 112:1327-1332	
	DA	Kuno, M. et al., "The band edge luminescence of surface modified CdSe nanocrystallites: Probing the luminescing state" J. Chem. Phys. (1997) 106(23):9869-9882	
	DB	Lawless, D. et al., "Bifunctional Capping of CdS Nanoparticles and Bridging to TiO.sub.2 " J. Phys. Chem. (1995) 99:10329-10335, 1995	
	DC	Lee, J-K. et al., "Surface Derivatization of Nanocrystalline CdSe Semiconductors," Mat. Res. Soc. Symp. Proc. (1997) 452:323-328	
✓	DD	Liz-Marzan, L.M. et al., "Synthesis of Nanosized Gold-Silica Core-Shell Particles" Langmuir, (1996) 12(18):4329-4335	

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RSN	DE	
		Mahtab, R. et al., "Protein-Sized Quantum Dot Luminescence Can Distinguish between 'Straight', 'Bent', and 'Kinked' Oligonucleotides", J. Am. Chem. Soc. (1995) 117:9099-9100
	DF	Mahtab, R. et al., "Preferential-absorption of a 'kinked' DNA to a newtral curved surface: comparison to and implications for nonspecific DNA-protein interactions," J. Am. Chem. Soc. (1996) 118:7028-7032
	DG	Matsumoto, H. et al., "Preparation of Monodisperse CdS Nanocrystals by Size Selective Photocorrosion" J. Phys. Chem. (1996) 100(32):13781-13785
	DH	McGall, G. et al., "Light-directed synthesis of high-density oligonucleotide arrays using semiconductor photoresists" Proc. Natl. Acad. Sci. USA (1996) 93:13555-13560
	DI	Michael, K.L. et al., "Randomly Ordered Addressable High-Density Optical Sensor Arraays" Analyt. Chem. (1998) 70(7):1242-1248
	DJ	Mikulec, F.V. et al., "Synthesis and Characterization of Highly Luminescent (CdSe)ZnS Quantum Dots," Materials Research Society Symposium (1997) 452:359-364
	DK	Mikulec, F.V. et al., Poster, Entitled "Fluorescent Semiconductor Nanocrystallites Derivatized With Biomolecules," Presented at the 216th National Meeting of the American Chemical Society Aug. 23-27, 1998
	DL	Moran, E.J. et al., "Radio Frequency Tag Encoded Combinatorial Library Method for the Discovery of Tripeptide-Substituted Cinnamic Acid Inhibitors of the Protein Tyrosine Phosphatase PTP1B" J. Am. Chem. Soc. (1995) 117:10787-10788
	DM	Mullenborn, M. et al., "Characterization of Solution-Synthesized CdTe and HgTe," Applied Physics (1993) 56:317-32
	DN	Murphy, C.J. et al., "Quantum dots as inorganic DNA-binding proteins," Mat. Res. Soc. Symp. (1997) 452:597-600
	DO	Murray, C.B. et al., "Synthesis and Characterization of Nearly Monodisperse CdE (E=S, Se, Te) Semiconductor Nanocrystallites" J. Am. Chem. Soc. (1993) 115(19):8706-8715
	DP	Nicolaou, K.C. et al., "Radiofrequency Encoded Combinatorial Chemistry" Ingew. Chem. Int. Ed. Engl. (1995) 34(20):2289-2291
	DQ	Nirmal, M. et al., "Fluorescence Intermittency in single Cadmium Selenide Nanocrystals" Nature (1996) 383:802-804
	DR	Pehnt, M. et al., "Nanoparticle Precursor Route to Low-Temperature Spray Deposition of CdTe Thin Films," Appl. Phys. Lett. (1995) 67(15):2176-2178
↓	DS	Peng, X. et al., "Epitaxial Growth of Highly Luminescent CdSe/CdS Core/Shell Nanocrystals with Photostability and Electronic Accessibility," J. Am. Chem. Soc. (1997) 119:7019-7029
	DT	Peng, X. et al., "Synthesis and Isolation of a Homodimer of Cadmium Selenide Nanocrystals," Angewandte Chemie (1997) 36:145-147

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RSN	DU	Plunkett, M.J. et al., "Combinatorial chemistry and new drugs" Sci Am (1997) 276(4):68-73	
	DV	Rajh, T. et al., "Synthesis and Characterization of Surface-Modified Colloidal CdTe Quantum Dots" J. Phys. Chem. (1993) 97:11999-12003	
	DW	Rogach, A.L. et al., "Synthesis and characterization of Thiol-Stabilized CdTe Nanocrystals" Ber. Bunsenges. Phys. Chem. (1996) 100(11):1772-2778	
	DX	Sambrook, J. et al., Molecular Cloning: A Laboratory Manual: Second Edition, Cold Spring Harbor Press, p. 12.14, 1989	
	DY	Schrock, E. et al., "Multicolor Spectral Karyotyping of Human Chromosomes," Science (1996) 273:494-497	
	DZ	Service, R.F. "Semiconductor Beacons Light Up Cell Structures" Science (1998) 281:1930-1931	
	EA	Spanhel, L. et al., "Photochemistry of Colloidal Semiconductors. Surface Modification and Stability of Strong Luminescing CdS Particles" J. Am. Chem. Soc. (1987) 109(19):5649-5655	
	EB	Steigerwald, M.L. et al., "Surface Derivatization and Isolation of Semiconductor Cluster Molecules," J. Am. Chem. Soc. (1988) 110:3046-3050	
	EC	Wang, D.G. et al., "Large-Scale Identification, Mapping, and Genotyping of Single-Nucleotide Polymorphisms in the Human Genome" Science (1998) 280:1077-1082	
	ED	Whitesell, J.K. et al., "Directionally Aligned Helical Peptides on Surfaces" Science (1993) 261:73-76	
	EE	Winzeler, E.A. et al., "Direct Allelic Variation Scanning of the Yeast Genome" Science (1998) 281:1194-1197	
↓	EF	Zhang, Y-Z. et al., "Novel Flow Cytometry Compensation Standards: Internally Stained Fluorescent Microspheres With Matched Emission Spectra and Long-Term Stability," Cytometry (1998) 33:244-248	

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